REMARKS

Reconsideration of the above-identified application is respectfully requested.

Claims 1-19 remain in the application. Claim 1 has been amended to more particularly point out and distinctly claim the subject matter that the Applicants regard as their invention. Support for the amendment can be found on page 19, line 9 of the specification. No new matter has been added.

I. Rejection under 35 U.S.C. § 103(a): Joyce Jr. in view of Roberts

Claims 1, 2, 5, 8-9, 12, 14-15 and 17-18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,292,559 to Joyce Jr. et al. in view of U.S. Patent No. 3,787,210 to Roberts. The Examiner noted that Joyce Jr. does not teach the coating on the front surface of the target substrate is a mixture of the transfer material to be deposited and a matrix material, wherein the matrix material has the property of being or becoming more volatile than the transfer material when exposed to the source of pulsed laser energy. Therefore, the Examiner supplemented Joyce Jr. with Roberts' matrix material, which has the property of being or becoming more volatile than the transfer material when exposed to laser energy.

Applicants respectfully submit that amended independent claim 1 and dependent claims 2, 5, 8-9, 12, 14-15 and 17-18 are not obvious over Joyce Jr. in view of Roberts. To establish a prima facie case of obviousness, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981 (C.C.P.A. 1979); M.P.E.P. § 2143.03.

The present invention uses a homogeneous composite (instead of heterogeneous layers) and a soft transfer process so the entire powder is transferred instead of it being broken up. The

materials used in the present invention are more fragile than those used in Joyce Jr. and need lower energy densities. The energy density used by Joyce Jr. would cause irreversible damage to the materials of the present invention. Energy densities for the present invention range from 0.05 J/cm^2 to 10 J/cm^2, and are typically 0.1 J/cm^2 to 2 J/cm^2. (Page 19, line 9).

The process described by Joyce Jr. involves heterogeneous layers in which the energy density hits a powder and breaks it up. Joyce Jr. teaches that high energy densities are required to achieve good adhesion and imaging. (Col. 5, lines 37-39) Specifically, Joyce Jr. teaches that the energy density range is 8 J/cm^2 to 20 J/cm^2, preferably 12 J/cm^2 to 18 J/cm^2. (Col. 5, lines 41-44) Therefore, Joyce Jr. does not disclose a "a source of pulsed laser energy with an energy density from 0.05 to 7.5 J/cm^2" as described in amended claim 1. Roberts does not make up for this inadequacy of Joyce Jr. Thus, Applicants respectfully submit that the hypothetical combination of Joyce Jr. and Roberts does not render obvious amended independent claim 1 or claims 2, 5, 8-9, 12, 14-15 and 17-18, which are dependent on claim 1.

II. Rejection under 35 U.S.C. § 103(a): Joyce Jr. and Roberts in view of Itoh

Claims 3 and 4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Joyce Jr. et al. and Roberts as applied to claims 1, 2, 5, 8-9, 12, 14-15 and 17-18 above, and further in view of U.S. Patent No. 4,702,958 to Itoh et al. The Examiner noted that the combination of Joyce Jr. and Roberts does not disclose the particle size of the transfer material. Therefore, the Examiner supplemented Joyce Jr. and Roberts with the Itoh transfer material having grain sizes between 10nm and 20μm. Itoh does not make up for the inadequacies of Joyce Jr. and Roberts

discussed above and, therefore, the hypothetical combination of Joyce Jr., Roberts and Itoh does not render obvious the subject matter of claims 3 and 4.

III. Rejection under 35 U.S.C. § 103(a): Joyce Jr. and Roberts in view of Blanchet-Fincher

Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Joyce Jr. et al. and Roberts as applied to claims 1, 2, 5, 8-9, 12, 14-15 and 17-18 above, and further in view of U.S. Patent No. 5,288,528 to Blanchet-Fincher. The Examiner noted that the combination of Joyce Jr. and Roberts does not disclose the use of a polymer as the transfer material. Therefore, the Examiner supplemented Joyce Jr. and Roberts with the Blanchet-Fincher polymer transfer material. Blanchet-Fincher does not make up for the inadequacies of Joyce Jr. and Roberts discussed above and, therefore, the hypothetical combination of Joyce Jr., Roberts and Blanchet-Fincher does not render obvious the subject matter of claim 6.

IV. Rejection under 35 U.S.C. § 103(a): Joyce Jr. and Roberts in view of Kodas

Claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Joyce Jr. et al. and Roberts as applied to claims 1, 2, 5, 8-9, 12, 14-15 and 17-18 above, and further in view of U.S. Patent No. 6,165,247 to Kodas et al. The Examiner noted that the combination of Joyce Jr. and Roberts does not disclose the use of a transfer material which comprises metal of ceramic particles coated with an organic precursor. Therefore, the Examiner supplemented Joyce Jr. and Roberts with Kodas's use of metal particles used to form a thin film being coated with an organic precursor. Kodas does not make up for the inadequacies of Joyce Jr. and Roberts discussed above and, therefore, the hypothetical combination of Joyce Jr., Roberts and Kodas does not render obvious the subject matter of claim 7.

V. Rejection under 35 U.S.C. § 103(a): Joyce Jr. and Roberts in view of Williams

Claims 10 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Joyce Jr. et al. and Roberts as applied to claims 1, 2, 5, 8-9, 12, 14-15 and 17-18 above, and further in view of U.S. Patent No. 4,987,006 to Williams et al. The Examiner noted that the combination of Joyce Jr. and Roberts does not disclose the use of an addition polymer as a matrix material. Therefore, the Examiner supplemented Joyce Jr. and Roberts with Williams's use of addition polymers as a matrix material. Williams does not make up for the inadequacies of Joyce Jr. and Roberts discussed above and, therefore, the hypothetical combination of Joyce Jr., Roberts and Williams does not render obvious the subject matter of claims 10 and 11.

VI. Rejection under 35 U.S.C. § 103(a): Joyce Jr. and Roberts in view of Williams (II)

Claim 13 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Joyce Jr. et al. and Roberts as applied to claims 1, 2, 5, 8-9, 12, 14-15 and 17-18 above, and further in view of U.S. Patent No. 5,135,870 to Williams (II) et al. The Examiner noted that the combination of Joyce Jr. and Roberts does not disclose the use of a matrix material selected from the group which includes water, aryl solvents, arene solvents, halogenated organic solvents, hydrocarbons, ketones, esters, ethers, carboxylic acids, phenols and phosphoric acid. Therefore, the Examiner supplemented Joyce Jr. and Roberts with the Williams (II) matrix material. Williams (II) does not make up for the inadequacies of Joyce Jr. and Roberts discussed above and, therefore, the hypothetical combination of Joyce Jr., Roberts and Williams (II) does not render obvious the subject matter of claim 13.

VII. Rejection under 35 U.S.C. § 103(a): Joyce Jr. and Roberts in view of Isomi

Claim 16 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Joyce Jr. et al. and Roberts as applied to claims 1, 2, 5, 8-9, 12, 14-15 and 17-18 above, and further in view of U.S. Patent No. 5,401,616 to Isomi et al. The Examiner noted that the combination of Joyce Jr. and Roberts does not disclose the application of the transfer/matrix mixture by a coating method selected from the group consisting of spin coating, ink jet deposition, jet vapor deposition, spin spray coating, aerosol spray deposition, electrophoretic deposition, pulsed laser deposition, matrix assisted pulsed laser evaporation, thermal evaporation, sol gel deposition, chemical vapor deposition, sedimentation and screen printing. Therefore, the Examiner supplemented Joyce Jr. and Roberts with the Isomi coating application method. Isomi does not make up for the inadequacies of Joyce Jr. and Roberts discussed above and, therefore, the hypothetical combination of Joyce Jr., Roberts and Isomi does not render obvious the subject matter of claim 16.

VIII. Rejection under 35 U.S.C. § 103(a): Joyce Jr. and Roberts in view of Tatah

Claim 19 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Joyce Jr. et al. and Roberts as applied to claims 1, 2, 5, 8-9, 12, 14-15 and 17-18 above, and further in view of U.S. Patent No. 5,814,165 to Tatah et al. The Examiner noted that the combination of Joyce Jr. and Roberts does not disclose means to position the source of the pulsed laser with respect to the receiving substrate whereby the receiving substrate can be pretreated or whereby a transfer material deposited on the substrate can be annealed or etched. Therefore, the Examiner supplemented Joyce Jr. and Roberts with the Tatah means to position the source of the pulsed laser energy with respected to the receiving substrate. Tatah does not make up for the

inadequacies of Joyce Jr. and Roberts discussed above and, therefore, the hypothetical combination of Joyce Jr., Roberts and Tatah does not render obvious the subject matter of claim 19.

In view of the foregoing, it is respectfully submitted that this application is ready for allowance. Kindly charge any additional fees due, or credit overpayment of fees, to Deposit Account No. 50-0281.

Respectfully submitted,

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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office on the date shown below.

May 6, 2003
Date

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